

Abstract

A simple and less expensive high voltage pulse generating circuit including a low voltage direct current voltage source having one output terminal connected to the other output terminal via a series circuit of a first switch with a low withstand voltage, an inductance storing a inductive energy and a second switch with a high withstand voltage, and a branch circuit including a free-wheel diode being connected between the other output terminal of the direct current voltage source and a common connection point between the first switch and the inductance. After storing inductive energy in the inductance by turning-on the first and second switches, these first and second switches are turned-off to commutate the energy stored in the inductance into a capacitive load connected across the second switch to charge the load abruptly and generate a high voltage pulse having a very narrow width without using a complicated and expensive magnetic compression circuit.